

TTGTAACAGA AAATTAAAT ATACTCCACT CAAGGGAATT CTGTACTTTG CCCTTTTGGT -99  
 AAAGTCTCAT TTACATTTCT AAACCTTTCT TAAGAAAATC GAATTCCTT TGAATCTCT -39  
 1 -1 M T S C H I  
 TCTGAATTGC AGAAATCAGA TAAAAACTAC TTGGTGAA ATG ACT TCT TGT CAC ATT 18  
 7 A E E H I Q K V A I F G G T H G  
 GCT GAA GAA CAT ATA CAA AAG GTT GCT ATC TTT GGA GGA ACC CAT GGG 66  
 23 N E L T G V F L V K H W L E N G  
 AAT GAG CTA ACC GGA GTA TTT CTG GTT AAG CAT TGG CTA GAG AAT GGC 114  
 39 A E I Q R T G L E V K P F I T N  
 GCT GAG ATT CAG AGA ACA GGG CTG GAG GTA AAA CCA TTT ATT ACT AAC 162  
 55 P R A V K K C T R Y I D C D L N  
 CCC AGA GCA GTG AAG AAG TGT ACC AGA TAT ATT GAC TGT GAC CTG AAT 210  
 71 R I F D L E N L G K K M S E D L  
 CGC ATT TTT GAC CTT GAA AAT CTT GGC AAA AAA ATG TCA GAA GAT TTG 258  
 87 P Y E V R R A Q E I N H L F G P  
 CCA TAT GAA GTG AGA AGG GCT CAA GAA ATA AAT CAT TTA TTT GGT CCA 306  
 103 K D S E D S Y D I I F D L H N T  
 AAA GAC AGT GAA GAT TCC TAT GAC ATT ATT TTT GAC CTT CAC AAC ACC 354  
 119 T S N M G C T L I L E D S R N N  
 ACC TCT AAC ATG GGG TGC ACT CTT ATT CTT GAG GAT TCC AGG AAT AAC 402  
 135 F L I Q M F H Y I K T S L A P L  
 TTT TTA ATT CAG ATG TTT CAT TAC ATT AAG ACT TCT CTG GCT CCA CTA 450  
 151 P C Y V Y L I E H P S L K Y A T  
 CCC TGC TAC GTT TAT CTG ATT GAG CAT CCT TCC CTC AAA TAT GCG ACC 498  
 167 T R S I A K Y P V G I E V G P Q

FIG.1A

183	ACT CGT TCC ATA GCC AAG TAT CCT GTG GGT ATA GAA GTT GGT CCT CAG	546
	P Q G V L R A D I L D Q M R K M	
	CCT CAA GGG GTT CTG AGA GCT GAT ATC TTG GAT CAA ATG AGA AAA ATG	594
199	I K H A L D F I H H F N E G K E	
	ATT AAA CAT GCT CTT GAT TTT ATA CAT CAT TTC AAT GAA GGA AAA GAA	642
215	F P P C A I E V Y K I I E K V D	
	TTT CCT CCC TGC GCC ATT GAG GTC TAT AAA ATT ATA GAG AAA GTT GAT	690
231	Y P R D E N G E I A A I I H P N	
	TAC CCC CGG GAT GAA AAT GGA GAA ATT GCT GCT ATC CAT CCT AAT	738
247	L Q D Q D W K P L H P G D P M F	
	CTG CAG GAT CAA GAC TGG AAA CCA CTG CAT CCT GGG GAT CCC ATG TTT	786
263	L T L D G K T I P L G G D C T V	
	TTA ACT CTT GAT GGG AAG ACG ATC CCA CTG GGC GGA GAC TGT ACC GTG	834
279	Y P V F V N E A A Y Y E K E A	
	TAC CCC GTG TTT GTG AAT GAG GCC GCA TAT TAC GAA AAG AAA GAA GCT	882
295	F A K T T K L T L N A K S I R C	
	TTT GCA AAG ACA ACT AAA CTA ACG CTC AAT GCA AAA AGT ATT CGC TGC	930
311	C L H	
	TGT TTA CAT TAG AA ATCACTTCCA GCTTACATCT TACACGGTGT CTTACAAATT	984
	CTGCTAGTCT GTAAGCTCCT TAAGAGTAGG GTTGTGCCTT ATTCAACTGC ATACATAGCT	1044
	CCTAGCACAG TGCCTTATTC GGTAGGCATC TAAGCAAAATT TCCTTAAATTA ATTAATATAT	1104
	CTTTAAAGAT ATCATATTTT ATGTATGTAG CTTATTCAAA GAAGTGTTC	1164
	ATAGTTTATT ATACATGATA CTTGGGTAGC TCAACATTCT TAAATTAACAG	1224
	CAGAAATATAA AATTGAAATA GATATATATA AAGTTAAAAA AAAAAAAA AAA	1277

**FIG. 13**

	10v	20v	30v	40v	50v
HLASP	MTSCHIAEEHIQKVAIFGGTHGNETLGVFLVKHWLENGAEIQRTGLEVKPF				
	MTSCH:AE:.I:KVAIFGGTHGNETLGVFLVKHWLEN:.EIQRTGLEVKPF				
BASPCDNA	MTSCHVAEDPIKKVAIFGGTHGNETLGVFLVKHWLENSTEIQRTGLEVKPF				
	10^	20^	30^	40^	50^
	60v	70v	80v	90v	100v
HLASP	ITNPRAVKKCTRYIDCDLNRIFDLENLGKKMS <del>EDLPYEV</del> RRAEINH <del>LF</del> GP				
	ITNPRAVKKCTRYIDCDLNR:FD ENLGKK.SEDLPYEVRRAEINH <del>LF</del> GP				
BASPCDNA	ITNPRAVKKCTRYIDCDLNRVFDPENLGKKK <del>SE</del> DL <del>PYEV</del> RRAEINH <del>LF</del> GP				
	60^	70^	80^	90^	100^
	110v	120v	130v	140v	150v
HLASP	K <del>SE</del> DSYDIIIFDLHN'TTSNMGCTLILED <del>SRN</del> FLIQMFHYIKTSLAPLPCY				
	K <del>SE</del> DSYDIIIFDLHN'TTSNMGCTLILED <del>SRN</del> :FLIQMFHYIKTSLAPLPCY				
BASPCDNA	K <del>SE</del> DSYDIIIFDLHN'TTSNMGCTLILED <del>SRN</del> DFLIQMFHYIKTSLAPLPCY				
	110^	120^	130^	140^	150^
	160v	170v	180v	190v	200v
HLASP	VYLIEHPSLKYATTRSIAKYPVGIEVGPQPGVLRADILDQMRKMIKHALD				
	VYLIEHPSLKYATTRSIAKYPVGIEVGPQPGVLRADILDQMRKMI:HALD				
BASPCDNA	VYLIEHPSLKYATTRSIAKYPVGIEVGPQPGVLRADILDQMRKMIQH <del>ALD</del>				
	160^	170^	180^	190^	200^
	210v	220v	230v	240v	250v
HLASP	FIH <del>HF</del> NEGKEFP <del>PCA</del> IEVYKII <del>EK</del> VDYPRDENG <del>EIA</del> AI <del>IHP</del> NLQDQDWKPL				
	FIH:FNEGKEFP <del>PCA</del> IEVYKI:KVDYPR:E:GEI:AI <del>IHP</del> :LQDQDWKPL				
BASPCDNA	FIH <del>HF</del> NEGKEFP <del>PCA</del> IEVYKIMRKVDYPRNESGEISAI <del>IHP</del> KLQDQDWKPL				
	210^	220^	230^	240^	250^
	260v	270v	280v	290v	300v
HLASP	HPGDPMFLTL <del>DG</del> KTIPLGG <del>DT</del> VYPV <del>FV</del> NEAAY <del>EK</del> KEAFAKTTKLTLNAK				
	HP.DP:FLTL <del>DG</del> KTIPLGGD TVYPV <del>FV</del> NEAAY <del>EK</del> KEAFAKTTKLTLNA:				
BASPCDNA	HPEDPVFLTL <del>DG</del> KTIPLGG <del>DOT</del> VYPV <del>FV</del> NEAAY <del>EK</del> KEAFAKTTKLTLNAN				
	260^	270^	280^	290^	300^
	310v				
HLASP	SIRCCLH				
	SIR..LH				
BASPCDNA	SIRSSLH				
	310^				

FIG. 2

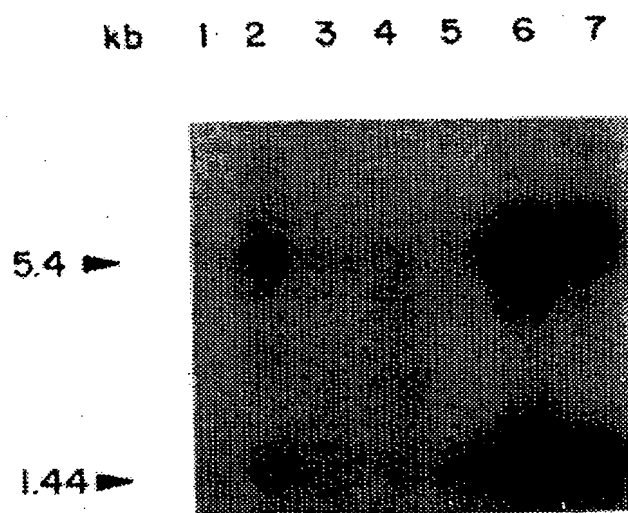


FIG. 3

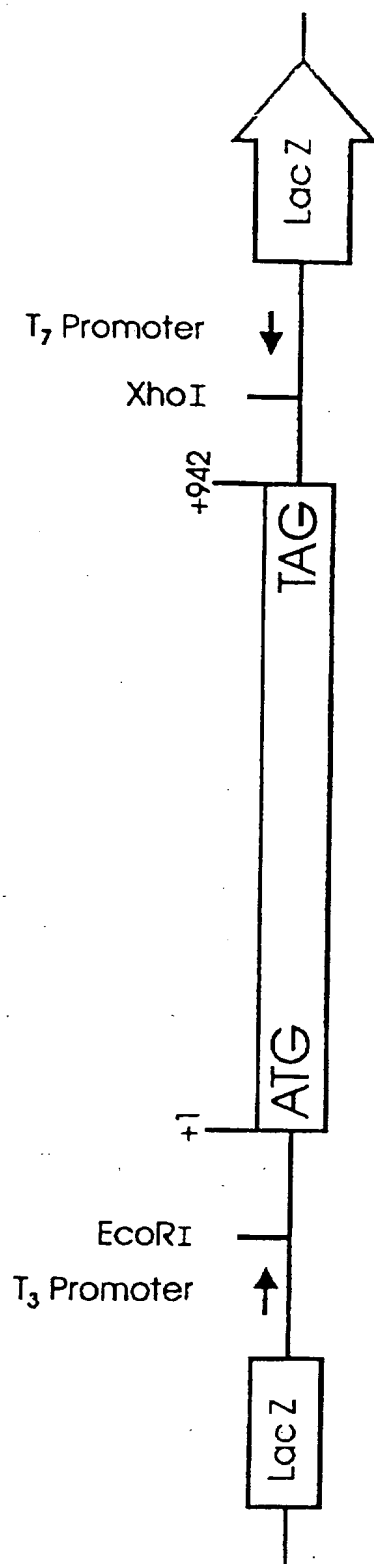


FIG. 4

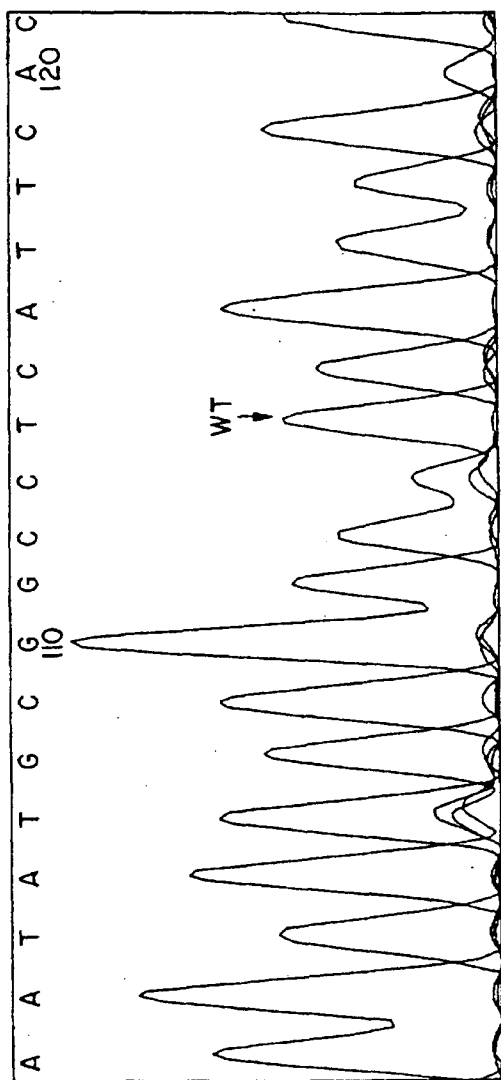


FIG. 5A

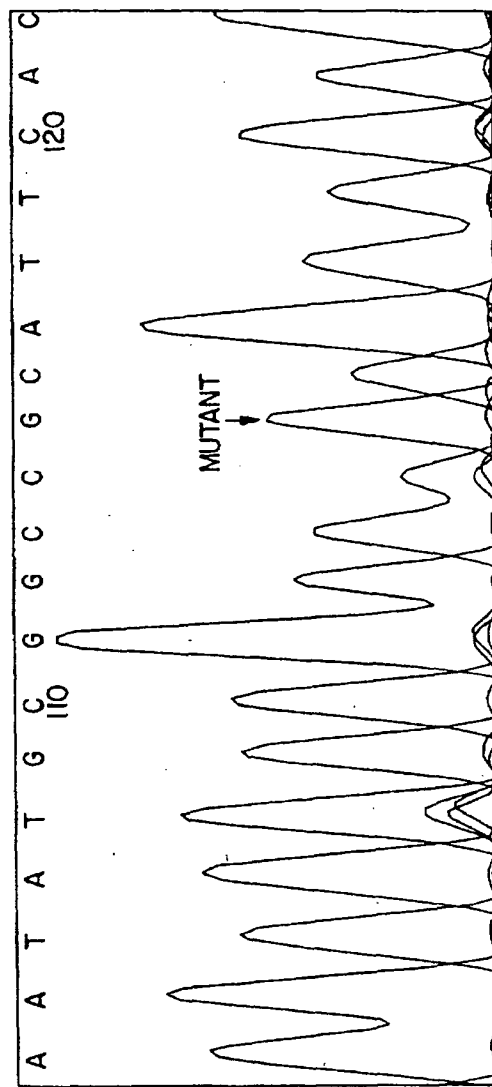


FIG. 5B

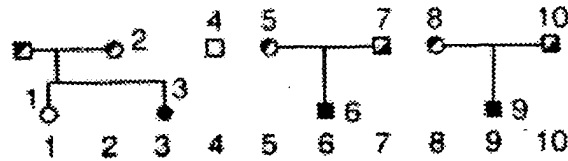
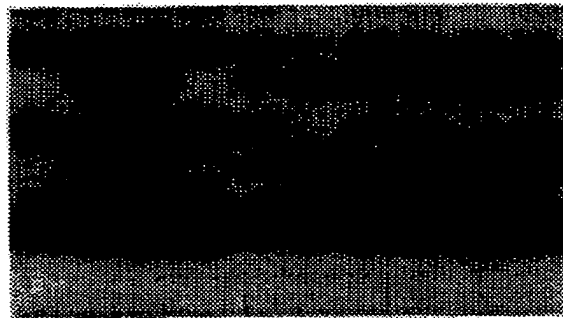
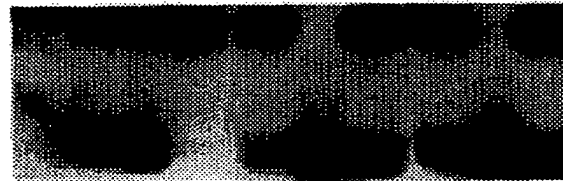


FIG.6A



← WT  
← MUT  
← WT  
← MUT

FIG.6B



← 239 bp  
← 125 bp  
← 114 bp

FIG. 7(a)



ED0602-20059000

CR	M		M		TH	
SS	B		A		FN	
PA	O		E		IF	
61	2		3		11	

/

TGTACCAGATATATTGACTGTGACCTGAATCGCATTTTTGACCTTGAAAATCTTGGCAAA  
-----+-----+-----+-----+-----+-----+-----+  
ACATGGTCTATATAACTGACACTGGACTTAGCGTAAAAACTGGAACCTTTAGAACCGTTT 240  
c t r y i d c d l n r i f d l e n l g k  
-----+-----+-----+-----+-----+-----+-----+

	NM		BN	
	DB		AS	
	EO		NP	
	12		22	

/

AAAATGTCAGAAGATTTGCCATATGAAGTGAGAAGGGCTCAAGAAATAAATCATTATTT  
-----+-----+-----+-----+-----+-----+-----+ 300  
TTTTACAGTCTTCTAAACGGTATACTTCACTCTTCCCGAGTTCTTTATTTAGTAAATAAA  
k m s e d l p y e v r r a q e i n h l f  
-----+-----+-----+-----+-----+-----+-----+

A		TH		M		S
V		FN		B		P
A		IF		O		O
2		11		2		1

/

GGTCCAAAAGACAGTGAAGATTCCTATGACATTATTTTTGACCTTCACAACACCACCTCT  
-----+-----+-----+-----+-----+-----+-----+ 360  
CCAGGTTTTCTGTCACTTCTAAGGATACTGTAATAAAAACTGGAAGTGTTGTGGTGGAGA  
g p k d s e d s y d i i f d l h n t t s  
-----+-----+-----+-----+-----+-----+-----+

FIG. 7(b)

n m g c t l i l e d s r n n f l i g m f

h y i k t s l a p l p c y v y l i e h p

s l k y | a t t r s i a k y p v g i e v g

-----+-----+-----+-----+-----+

D	M	M D	A	E	BMOD	TM
D	N	N D	L	C	IBPP	RS
E	L	L E	U	R	NONN	UE
1	1	1 1	1	V	1121	91

/

CCTCAGCCTCAAGGGGTTCTGAGAGCTGATATCTTGGATCAAATGAGAAAAATGATTAAA  
 GGAGTCGGAGTTCCCCAAGACTCTCGACTATAGAACCTAGTTTACTCTTTTACTAATTT

p q p q g v l r a d i l d q m r k m i k

NN	HMHM
SL	INHN
PA	NLAL
H3	P111

/

CATGCTCTTGATTTTATACATCATTTCAATGAAGGAAAAGAATTTCCCTCCCTGCGCCATT  
 GTACGAGAACTAAAATATGTAGTAAAGTTACTTCCTTTTCTTAAAGGAGGGACGCGGTAA

h a l d f i h h f n e g k e f p p c a i

E	BSBNXSASSBBHNSB	FF	F	IF
C	SESCMMVCESSPCCB	OO	O	TN
P	ACAIAAARCAAIRV	KK	K	AU
1	J1J111111JJ2111	11	1	1H

/

GAGGTCTATAAAATTATAGAGAAAGTTGATTACCCCGGGATGAAAATGGAGAAATTGCT  
 CTCCAGATATTTAATATCTCTTTCAACTAATGGGGGCCCTACTTTTACCTCTTTAACGA

e v y k i i e k v d y p r d e n g e i a

c693>a  
 Y23I>X

FIG. 7(d)



A  
L  
U  
1

c914>a  
A305>E

960

RM	A	ATM
MA	L	FRS
AE	U	LUE
11	1	291

1020

B	A	RM	H	D	S
S	L	MA	N	D	F
P	U	AE	F	E	A
W	1	11	3	1	N

1080

-----+-----+-----+-----+-----+-----+-----+

[illegible]

201020-205300

✓	✓	✓	✓		
TM	ATM	PATM	TDM	E	A
RS	SRS	ASRS	RRS	C	L
UE	EUE	CEUE	UAE	R	U
91	191	1191	911	V	1
/	//	///	/		

AATTTCTTAAATTAATTAATATATCTTTAAAGATATCATATTTTATGTATGTAGCTTATT  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
TTAAAGAATTTAATTAATTTATATAGAAAATTTCTATAGTATAAAATACATACATCGAATAA  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
n f l n . l i y l . r y h i l c m . l i

X	N	A
M	L	L
N	A	U
1	3	1

CAAAGAAGTGTTTCCTATTTCTATATAGTTTATTATACATGATACTTGGGTAGCTCAACA  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
GTTTCTTCACAAAGGATAAAGATATATCAAATAATATGTACTATGAACCCATCGAGTTGT  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
q r s v s y f y i v y y t . y l g s s t

✓	✓
TM	TM
RS	RS
UE	UE
91	91
/	/

TTCTTAATAAACAGCCTTTGTATTTCAGAATATAAAATTGAAATAGATATATATAAAGTTA  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
AAGAATTATTTGTCGGAACATAAGTCTTATATTTTAACTTTATCTATATATATTTTCAAT  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
f l i n s l c i q n i k l k . i y i k l

AAAAAAAAAAAAAAAAAAAA  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
TTTTTTTTTTTTTTTTTTTT  
-----+-----+-----+-----+-----+-----+-----+-----+-----+  
k k k k k k  
-----+-----+-----+-----+-----+-----+-----+-----+-----+

FIG. 7(g)